

PCT

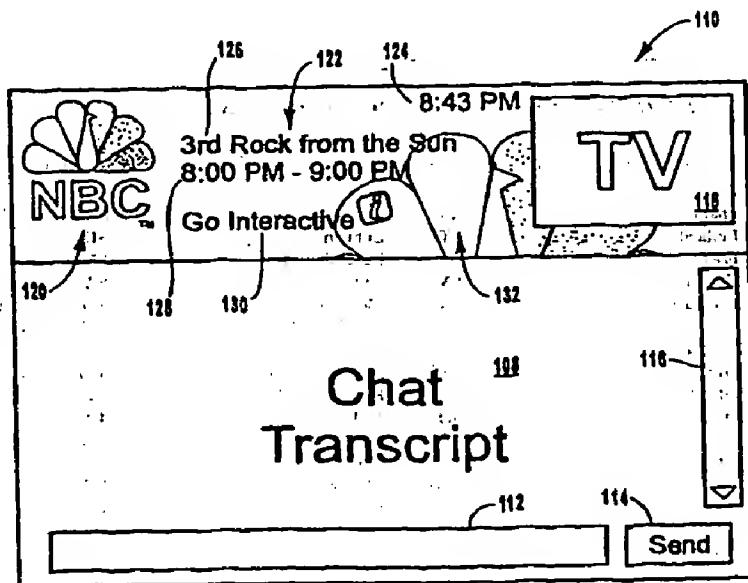
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ :	A1	(11) International Publication Number: WO 00/64150 (43) International Publication Date: 26 October 2000 (26.10.00)
H04N 5/445		
(21) International Application Number:	PCT/US00/10336	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
(22) International Filing Date:	17 April 2000 (17.04.00)	
(30) Priority Data:	09/296,452 21 April 1999 (21.04.99) US	
(71) Applicant:	WEBTV NETWORKS, INC. [US/US]; 1065 La Avenida Avenue, Mountain View, CA 94025 (US).	
(72) Inventors:	BRUCK, Timo; 1983-9 San Luis, Mountain View, CA 94043 (US). KLEPER, Scott, J.; 134 Caversham Woods, Pittsford, NY 14534 (US).	
(74) Agents:	NYDEGGER, Rick, D. et al.; Workman, Nydegger & Seeley, 1000 Eagle Gate Tower, 60 East South Temple, Salt Lake City, UT 84111 (US).	

(54) Title: CONCURRENT VIEWING OF VIDEO PROGRAMMING AND OF TEXT COMMUNICATIONS CONCERNING THE VIDEO PROGRAMMING



(57) Abstract

A system in which a video signal, such as a television program, is received and displayed to a viewer. The system has a user-selectable chat option in which the viewer can enter text messages (108) that will be displayed to other viewers of the video signal who have also selected the chat option. A transcript of the text messages from all of the viewers who have selected the chat option is displayed to all such viewers. The video signal is simultaneously displayed on a graphical user interface having a video region (118) for display of the video signal and a chat region (108) for display of the transcript of text messages.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Larvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

CONCURRENT VIEWING OF VIDEO PROGRAMMING AND OF TEXT**COMMUNICATIONS CONCERNING THE VIDEO PROGRAMMING**Technical Field

The present invention relates generally to text communications over a
5 communications network such as the Internet. More particularly, the invention
concerns concurrent viewing of video programming and of text communications
between viewers of the video programming.

Background of the Invention

In recent years, communications networks such as the Internet have become
10 popular for their ability to enable people to communicate a virtually limitless variety of
information across great distances. More importantly, the development of the Internet
has enabled persons even with relatively little technical training to find, send and
receive information using a browsing device (e.g. a personal computer or a television
set-top box) running a browser program (e.g. MICROSOFT® Internet
15 Explorer or Netscape Navigator). This, in turn, has led to meteoric growth in Internet
use.

One Internet feature which has gained particular popularity provides for real-
time text conversations between users. These conversations, referred to as "chat",
typically involve a number of individuals, each of whom is in communication with a
20 chat server where messages from each participant are received for distribution to all
other participants. Once received by the chat server, the messages are available to the
browsing devices where they are presented to respective participants. The chat server
thus establishes a virtual "chat room" where participants can carry on a text
conversation over the Internet.

thus establishes a virtual "chat room" where participants can carry on a text conversation over the Internet.

Due to the vast number of Internet users, and the similarly vast number of chat rooms, it has become common practice to define a topic for discussion in a given chat room. The topic may be defined by agreement of the participants, but more typically is established by the chat service provider upon creation of the chat room. The topic may be maintained by the chat service provider policing the chat room, and limiting participation to those who engage in discussion on the defined topic. Alternatively, the chat room may be controlled by the participants themselves. In either event, however, the chat room typically is a somewhat permanent fixture available to participants throughout the day.

In order to access the Internet, many users subscribe to Internet access services which provide a convenient standardized interface between users and the vast number of Internet sites. One such Internet access service is the WEBTV® Internet access network (WEBTV is a registered trademark of WebTV Networks, Inc. of Mountain View, California.). The WEBTV Internet access network links a large number of browsing devices, referred to as client terminals, with at least one host server which directs the flow of information to and from the client terminals. The client terminals are connected to the host server via conventional modem pools, either by Integrated Services Digital Network (ISDN) connections, telephone lines, or other data links. Using these connections, users are able to access informational sites established by Internet publishers, and are able to access "chat rooms" whereby they may participate in interactive text conversations online. The host server also may offer supplemental

services, such as email, news reports, television program guides, and enhanced access to certain web pages for subscribers of the service.

Although chat rooms are accessible to most users of the Internet, it can sometimes be difficult to find a chat room directed to a particular topic, especially when that topic has a limited period of relevance. Chat rooms relating to television programs fall into this category. For example, a chat room relating to a particular television show is of greatest interest for a short period around the time the show is aired. Unfortunately, there may not be a permanent chat room dedicated to a particular show where viewers can congregate and, even where such a chat room exists, a viewer may have difficulty locating the particular chat room and thus may be discouraged from experiencing chat rooms.

In the past, some television broadcasters have attempted to make chat available to viewers by providing chat rooms related to particular programming. Others have attempted to incorporate selected excerpts from relevant chat rooms into the broadcast itself. However, until now, viewers have not been provided with a system and method whereby they are able to simultaneously view a video program and participate in a chat room related to the video program using the same display. Moreover, viewers have been unable to select a chat option while viewing a video program so that the viewers may chat during the video program.

20

Summary of Invention

A method and a system are provided for linking chat rooms and television viewing. More particularly, a system is provided in which a video signal, such as a television program, is received and displayed to viewers. The system has a user-

selectable chat option in which viewers can enter text messages that will be displayed to other viewers of the video signal who have also selected the chat option. In one embodiment, the video signal is displayed on a graphical user interface in the form of a template having a video region for display of the video signal and a chat region for display of the text messages.

In some embodiments, the system also provides a viewer the ability to select among a plurality of different television programs to display. The system then provides a plurality of separate chat rooms, each associated with a corresponding television program. Upon selection of the chat option when viewing a particular one of the television programs, a viewer is placed in a chat room corresponding to the displayed television program. Thereafter, text messages from viewers of the same program who have likewise selected the chat option are displayed to each other.

Brief Description of the Drawings

Fig. 1 is a somewhat schematic view of a browsing device in the form of a set-top box configured for use in accordance with the present invention.

Fig. 2 is a schematic view illustrating the architecture of the browsing device of Fig. 1.

Fig. 3 is a schematic view of a browsing device in the form of a personal computer configured for use as part of the present invention.

Fig. 4 is a schematic view of the structure of a communications network for use by browsing devices as shown in Figs. 1 and 3.

Fig. 5 is a schematic view of a user interface according to the present invention, illustrating a chat icon superimposed over a television program.

Fig. 6 is a schematic view of a chat user interface according to the present invention.

Fig. 7 is a schematic view of an alternative chat user interface.

Fig. 8 is a schematic view of an alternative chat user interface.

5 Fig. 9 is a schematic view of an alternative chat user interface.

Fig. 10 is a schematic view of an alternative chat user interface.

Fig. 11 is a schematic view of an alternative chat user interface.

Fig. 12 is a schematic view of a user interface providing access to a chat room according to the present invention.

10 Fig. 13 is a schematic view of an alternative user interface providing access to a chat room.

Fig. 14 is a schematic view of the operation of a chat room according to the present invention.

Detailed Description of the Invention

15 Figs. 1-14 and the following discussion are intended to provide a brief, general description of a suitable networked computing environment in which the invention may be implemented. Those skilled in the art will appreciate that the invention may be practiced with other networked computer devices, including hand-held devices, multiprocessor systems, minicomputers, mainframe computers, and the like. The invention may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network.

Fig. 1 depicts a control unit or browsing device 10 in the form of a client system. As indicated, the client system includes an electronics unit 12, a television 14, and a remote control 16. Electronics unit 12 typically is referred to as a set-top box (STB), because of its usual placement on top of television 14. Set-top box 12, however, may be built into television 14, forming an integral unit. The client system uses television 14 as a display device for displaying both video data and a graphical user interface, and as a loudspeaker device for emitting audio data. The set-top box is coupled to the television by a communications link 18. The link is an RF (radio frequency), S-video, composite video, or other equivalent form of communications link.

The set-top box includes hardware and/or software for receiving and decoding a broadcast video signal 20, such as an NTSC, PAL, SECAM or other TV system video signal, and providing video data to the television via link 20. Set-top box 12 also includes a browser program, which may be implemented in hardware and/or software, to cause a graphical user interface 22 to be displayed on television 14. The browser program enables a user to access various WEBTV network services, browse the World Wide Web, send email, or otherwise access the Internet.

Client system 10 may include a standard modem or an ISDN modem, such that the communication link between set-top box 12 and the Internet can be either a telephone (POTS) connection 24 or an ISDN connection 26. Alternatively, client system 10 may include a DOCSIS modem for communicating via a cable system or an antenna for wireless communications such as via satellite. As a further alternative, client system 10 may receive data via one type of communication line and send data or

requests for data over a different medium. The set-top box receives power through a power line 28.

Remote control 16 is operated by the user to control television viewing, and to control the client system while browsing the World Wide Web, sending email, or performing other Internet-related functions. Remote control 16 typically includes a keyboard to allow an operator to enter text data, such as for email, and may also include a pointing device, microphone or other input device. The set-top box receives commands from remote control 16 via an infrared (IR) communication link. Alternatively, the link between the remote control and the set-top box may be an RF communication link or any equivalent communication link (e.g., wires, etc.).

Fig. 2 is a block diagram illustrating internal features of set-top box 12. In this illustration, operation of the client system is controlled by a processing unit, such as central processing unit (CPU) 30, which is coupled to an Application-Specific Integrated Circuit (ASIC) 32. The CPU executes software designed to implement various features of the present invention. ASIC 32 contains circuitry which may be used to implement these features. ASIC 32 is coupled to an audio digital-to-analog converter (DAC) 34 which provides audio output to television 14. In addition, ASIC 32 is coupled to a video encoder 36 which provides video output to television 14. An IR interface 38 detects IR signals transmitted by remote control 16 and, in response, provides corresponding electrical signals to ASIC 32. A standard telephone modem 40 or an ISDN modem 42 are coupled to ASIC 32 to provide for connection(s) to the Internet. Those skilled in the art will appreciate that the set-top box also may include a

cable television or radio frequency modem or other system for sending and/or receiving data (not shown).

A receiver 44 receives broadcast video signals, such as an NTSC video signal.

The video signal may be received and decoded directly by the receiver or may be a

5 feed from a separate box, such as a cable decoder or a satellite receiver (not shown).
Typically, the receiver is able to tune into a selectable channel or control/monitor the
tuning of an external device such as the satellite receiver. This capability allows the
set-top box to know what video signal is being processed, which in turn enables
various functional capabilities described herein below.

10 The receiver is coupled to ASIC 32 to provide corresponding electrical signals to ASIC 32. This allows video data carried in broadcast video signal 20 to be presented to the viewer on television 14. More specifically, receiver 44 is configured to digitize the incoming video signal, which is stored in RAM 48, so that ASIC 32 and CPU 30 can process the video signal before displaying it on the television. This configuration enables the set-top box to generate shared screen viewing where the video signal only occupies a portion of the screen. The remaining screen area then can be used to display various user interface controls or data, as described in more detail below.

15 By virtue of the combined video and Internet browsing capabilities of the set-top box, it is possible to provide functional integration between television viewing and Internet browsing. For instance, one feature of set-top boxes, as described herein, is provision of an electronic programming guide for television viewing. The electronic programming guide is an electronic database on the client which is periodically

updated by the host server. The database includes scheduling, rating and other information about the television shows available to the user. Among other things, the electronic programming guide also can include links to websites associated with various shows. Using information associated with the programming guide, users are, 5 for instance, able to conveniently access websites that relate to television shows using on screen links.

Also coupled to ASIC 32 is memory, including random access memory (RAM) 48 and read-only memory (ROM) 46, which provides for storage of program code for implementing application software to be executed by the set-top box. Note 10 that ROM 46 may be a programmable ROM (PROM), or any form of erasable PROM (EPROM), or flash memory. A mass storage device 50 optionally may be provided and coupled to ASIC 42. The mass storage device may be used to input software or data to the client terminal or to store downloaded software or data. Mass storage device 50 can be any suitable device for storing machine-executable instructions, such 15 as a magnetic drive, optical drive, and the like.

Fig. 3 depicts an alternate browsing device in the form of a conventional personal computer 11, including a central processing unit (CPU) 52, a memory 54, and a bus 56 that couples various components (including the memory) to the CPU. Bus 56 may be any of several types of bus structures, including a memory bus or memory controller, a peripheral bus, or a local bus using any of a variety of bus architectures. The memory includes read-only memory (ROM) 58 and random access memory (RAM) 60. A basic input/output system 62 (BIOS), containing basic routines

which help to transfer information between elements within the personal computer (such as during start-up), is stored in ROM 58.

The personal computer further includes a hard disk drive 66 and an optical disk drive 70 for reading from or writing to a removable optical media such as a CD-ROM or other optical storage. Hard disk drive 66 and optical disk drive 70 are connected to bus 56 by a hard disk drive interface 72 and an optical drive interface 76, respectively. The drives and their associated computer-readable media provide nonvolatile storage of computer-readable instructions, data structures, program modules and other data for the personal computer.

A video capture card 68 is connected to bus 56. Video capture card 68 provides functionality similar to that of the receiver of the set-top box of Fig. 2. In particular, the video capture card receives a video signal and feeds a digitized output to memory 54 or video memory on a video adapter. The video capture card is typically able to receive either an RF video input or a direct video/audio input. In the case of RF input, the user is normally able to control the channel or tuning through a software interface.

Although the exemplary environment shown in Fig. 3 employs a hard disk and a removable optical disk, it should be appreciated by those skilled in the art that other types of computer readable media which can store data which is accessible by a computer (e.g. magnetic cassettes, flash memory cards, digital video disks, Bernoulli cartridges; random access memories (RAMs), read only memories (ROMs), etc.) also may be used.

A number of program modules may be stored on the hard disk, magnetic disk, optical disk, ROM 58, or RAM 60, including an operating system, one or more application programs, other program modules, and program data. A user may enter commands and information into personal computer 11 through input devices such as a keyboard 78 and/or a pointing device (mouse) 80. Other input devices (not shown) may include a microphone, joystick, game pad, satellite dish, scanner, or the like. These and other input devices often are connected to central processing unit 52 through a serial port interface 82 which is coupled to the bus. However, the input devices may be connected by other interfaces, such as a parallel port, game port or a universal serial bus (USB).

A monitor 84 or other type of display device is also connected to bus 56 via an interface, such as a video adapter 86. In addition to the monitor, personal computers typically include other peripheral output devices (not shown), such as speakers and printers. Finally, personal computer 11 includes a browser program, which may be implemented in hardware and/or software to cause a graphical user interface to be displayed on monitor 84. The user employs the graphical user interface to browse the World Wide Web; send email; and otherwise access the Internet. In a typical graphical user interface, the user is also able to dedicate a portion of the screen to display of video content, such as acquired through the video capture card. The personal computer also typically includes a modem 88, such as an ISDN modem or telephone line modem, connected to the serial bus for communication with remote computers through a communications network.

Fig. 4 illustrates a basic configuration of a networked computing environment in which a browsing device, such as a client terminal or personal computer, typically operates. A number of browsing devices 10 are coupled to a modem pool 90 via bi-directional data connections 92, which may be a telephone connection, ISDN connection, or any other similar type of connection, such as cable and satellite forward channels. Modem pool 90 typically is coupled through a router, such as that conventionally known in the art, to a server arrangement including a number of remote servers 94 via a conventional communications network 96, such as the Internet. Connected to the communications network is a host server 98, which specifically supports and communicates with browsing devices 10 and forms part of the server arrangement. The browsing devices each have a connection to host server 98 through modem pool 90 and the Internet. Note that modem pool 90 is a conventional modem pool, such as is found today throughout the world providing access to the Internet and private networks. A chat server 99 is accessible via the Internet to handle chat room operation as described below.

The present invention preferably is implemented on a communications network navigable by hypertext links, such as the World Wide Web. The World Wide Web encompasses a vast collection of web pages residing as data files on remote servers connected to the Internet. Each web page is downloadable and viewable by a browsing device, and often contains hypertext links, which, if selected, cause the browsing device to point to, or download and display, a new web page.

Within the World Wide Web, a collection of related web pages forms a website. Individuals or organizations that provide content to the World Wide Web are

known as publishers. A single publisher on the Internet may establish a single page, an entire website, or multiple websites. Web pages are stored as data files on remote servers, and transmitted to browsing devices upon request from each browsing device.

Each remote server has a unique identifier such as an Internet protocol (IP) address which marks its location on the Internet. Most have an alphanumeric domain name, associated with the IP address, providing an alternative, easy-to-remember address at which the remote server may be contacted. Each data file which contains web page data has a unique file path to indicate its location within the remote server.

To download and present data from a remote server over the communications network, browsing device 10 contacts one of remote servers 94 through communications network 96 using a network address such as a universal resource locator (URL). It will be appreciated, specifies the protocol by which the data is to be transferred, as well as the unique identifier (e.g., domain name or IP address) at which the remote server is located, and the file path of the specific file to be transferred. The remote server then transmits the requested data to the browser program, which in turn displays the data according to predefined conventions.

Data files containing web pages typically are transmitted using the HyperText Transfer Protocol (HTTP), and encoded using the HyperText Markup Language (HTML). The HTML language provides a standard for interpretation of text data, formatting instructions, and other behavioral attributes of a web page, including links to other web pages or resource files containing image, video, and audio data.

Fig. 5 illustrates a user interface 100 having a television program displayed thereon, as indicated by the large letters TV. A chat icon 104 appearing generally like

a cartoon dialog bubble is selectively superimposed over the television program to provide the user with a chat option relating to the video program presented on the display. When the chat icon is displayed, a user can select or activate a link represented by the icon by pressing a particular button on the remote control such as "Go" or "RETURN":

Upon activation of the link, the user is transferred into a chat room related to the particular television show being viewed as depicted in Fig. 6. In the chat room of Fig. 6, text messages from the new user (as well as other participants in the chat room) are displayed in a chat region 108 of a chat user interface 110, as symbolized by the large "Chat Transcript" identifier. Text messages between the various participants are transmitted to each other over a communications network, which is typically the Internet. As indicated, the chat user interface may include a text entry box 112 into which users are able to enter text messages using the remote control. After entry of the message, the user typically selects and actuates a send button 114 with the remote control to deliver a new message to add to the chat transcript. A scroll bar 116 on the edge of the chat user interface may be provided to allow the user to scroll up and down to review older messages that may have scrolled out of the chat region.

The Chat user interface 110 also includes a video region 118 for display of a video signal, i.e., a television program which the user was viewing prior to entry of the chat room. The chat interface may further include a logo region 120 for display of a selected logo which may be associated with the chat room. An informational region 122 also may be provided, the information region including various data such as a clock 124, a television program identifier 126, i.e., a show name, a program schedule

time 128 and an interactive link 130. Interactive link 130 may be provided to permit a user to jump to a website related to the television content being viewed, or receive other interactive data related to the television program. For instance, a user may be linked to the NBC website during viewing of an NBC show or may receive sports scores during a sporting event.

The area of the screen beneath the video and information regions may include a background image 132 used to also display some identifying characteristic of the television program. In Fig. 6 the background image is the logo for the network supplying the show, i.e., the NBC peacock logo. Alternatively, as illustrated in Fig. 7, the background region may be used to display the logo associated with the show, i.e., Third Rock From the Sun. Some other possible identifying characteristics are a logo for the local network affiliate which broadcasts the television show or the title of a particular episode of the show.

An alternative user interface arrangement for a chat interface is illustrated in Fig. 8. In the interface of Fig. 8, chat region 108 is smaller and is positioned at the top of the interface, with video region 118 being located at the bottom. As indicated, text entry box 112 and send button 114 may be positioned between the video and chat regions. A status line 134 may be provided at the top of the interface to report the number of participants in the chat room. Additionally, a network logo (e.g., the Comedy Central logo) associated with the current television show may be displayed in logo region 120. An informational region 122 also may be provided, the depicted informational region including a clock 124 and a television program identifier 126. Additionally, a user selection area 136 may be provided such that the user is able to

select between an Online Store option 138 and a TV Schedule option 140, allowing a user to access a website where they could purchase show-related goods online or access scheduling information related to the current show or its network. Alternatively, as shown in Fig. 9, the logo or informational regions may contain the logo of the network service provider such as WEBTV and/or may contain advertisements.

Fig. 10 illustrates another embodiment of a chat user interface arrangement. In particular, video region 118 in Fig. 10 is larger than the video region shown in Fig. 6 or Fig. 3. Chat region 108 is smaller and is disposed below the video region. As indicated, the informational region may be positioned at the left side and may include a clock 124 and a television program identifier 126. A logo region 120 may be positioned in the upper left hand corner and can display the network service provider logo, as shown, or may display a television network, a local affiliate or a show logo as previously described.

Fig. 11 depicts another chat user interface embodiment which utilizes a full screen video region 118. As indicated, chat region 108, together with text entry box 112 and send button 114, may occupy the entire screen and are superimposed over the television program. This has the advantage of providing the maximum space for both video and chat regions; but legibility of the text messages may be reduced with some video content.

Figs. 12 and 13 depict two alternative paths for a user to enter a chat room related to a television program. Fig. 12 depicts a program information interface in which information such as a show time and episode description is presented for a

particular television show. An interactive link 150 allows a user to automatically connect to a related website upon activation as described previously for link 130. A similar chat link 152 may be provided which transfers the user into the associated chat room upon selection as with chat icon 104. Video region 118 displays the selected television show if it is currently playing. Otherwise, the video region will display the currently playing show on the selected channel. The interface also typically provides user selectable buttons 154, 156 and 158 to allow a user to control recording of the show by an attached VCR (not shown), to set a reminder to appear prior to the start of the show and to exit the program information interface, respectively.

Fig. 13 depicts an options screen that can be actuated using the remote control while viewing a television program. As indicated, the options screen may include an interactive link 150, a chat link 152, and user selectable buttons 160, 162 and 164, which allow a user to access a programming guide for a current day, access the previously-described program information interface and access a television favorites mode where still images from multiple channels are displayed simultaneously on separate small areas of the screen. The options screen also may include a user selectable button 166 which links the user to a chat room related to the current program upon selection. Button 166 is shown in the highlighted condition in Fig. 13.

It should be understood that, in the described embodiment, the presence of a chat room for a particular show is optional. For instance, the network service provider ultimately controls whether or not a chat link is presented to the user by controlling the display of the set-top box. Thus, a chat room may be provided only for certain shows. A broadcast network may contract with the network service provider to have a

chat room for all of the shows broadcast by that network. Alternatively, shows may be individually selected to have an associated chat room based on user interest or other considerations.

Whether or not a chat link shows up for a particular television show typically is controlled by data in the electronic programming guide. In the electronic programming guide, each show has a unique identifier. Thus, a chat link may be created by simply changing a corresponding field in the electronic programming guide entry for the particular show. That field may then be monitored by the set-top box to determine whether or not to display a chat link when that show is active. Of course, the appearance of the chat link could be controlled many other ways, such as by information broadcast with the show. Such information could be a specific control signal, or monitoring the closed captioning text for a particular keyword, for instance.

Referring to Fig. 14, operation of an exemplary entertainment system is demonstrated, the depicted system including a chat client, a host server and a chat server. As indicated, when a user selects a chat option for a show X, a chat request typically is sent to the host server, which responds by sending an HTML formatted web page to the chat client for use in dynamically creating the desired user interface. Alternatively, the HTML formatted web page may be stored in memory at the chat client, or elsewhere for ready retrieval by the chat client. The HTML formatted web page thus may be employed as a user interface template for use in quickly creating a desired user interface.

It will be appreciated that various alternative templates may be used to create alternative user interfaces as described above.

Furthermore, the template employed may be selected based on an identifying characteristic of the broadcast video signal. Upon identifying such a characteristic, for example, a template may be selected which defines a video region for display of the broadcast video signal, a chat region for display of text communications, and a logo region for display of a logo which reflects the identifying characteristic of the broadcast video signal. It thus will be appreciated that the interface may be customized based on the particular show, episode, network, network affiliate or other consideration.

The network, affiliate and program name, which are typically used to control the branding or logo selection for the user interface, generally are stored in the electronic programming guide in the entry for the particular show. The server may use the show, episode, network or affiliate information to select a particular template. The template then may be used to provide for presentation of a predefined user interface file for the particular show, episode, network or affiliate being viewed. If there is more than one interface that might apply to a particular show (e.g. an interface for the network and an interface for the show are available), the most specific interface (e.g., the interface for the show) is typically chosen.

Referring still to Fig. 14, it will be noted that the server response also includes instructions to the set-top box identifying the chat server. This allows for communication between the chat client and the desired chat room. It should be understood that the chat server functionality could be integrated into the host server system or could reside on any number of separate server systems.

The set-top box automatically connects to the chat server into a chat room identified using the show identifier for show X. The chat room may, in fact, be created upon request of a chat client to chat about a particular show. This tends to reduce the number of chat rooms which must be serviced by the chat server at any given time. If 5 there is no interest in chatting about a particular show, the server will not create a chat room for that show.

Using the show identifier in the chat room designation allows simple and automatic linking of the various viewers of the show. Also, because the show identifier is unique, it is unlikely that two shows will have the same chat room designation. Users in the chat room are typically identified by their user ID, although 10 any other suitable identifier could be used.

The chat server runs a standard chat server software such as ircd. The server software maintains a table of the various participants in the chat room and echoes all messages from any of the participants to all of the participants. The set-top box runs a corresponding client software which forwards messages entered in the text entry box 15 to the chat server and displays the messages forwarded from the server. In the case of a personal computer based client, the user might have custom software to link to the chat room corresponding to a video program being viewed. Alternatively, a personal computer user could link to the chat by running a standard chat client program such as mIRC and entering the appropriate chat server identification and chat room 20 identification. If the personal computer user does not have access to electronic programming guide data as described above, the PC user could be provided with the necessary information via a website related to the current show, via data embedded in

the broadcast signal of the show, or by requesting the information from the host server.

Normally, participants in the chat room for a particular show will leave within a short period following the end of the show. However, if participants do not exit the 5 chat room spontaneously, they may receive a "Shows Over" reminder in place of the show time to encourage closure of the chat room. After a predetermined duration of time, the chat server may unilaterally close the chat room. This is helpful in ensuring that the chat server is able to adequately serve chat rooms for all shows currently being broadcast. Urging users to exit the chat room may also help to avoid chat 10 between chat clients viewing the show in different time zones.

It is also possible, however, that the chat room could simply be maintained until such time as the last participant has left the chat room. Moreover, interactive link 130 may be changed to be a link to the chat room for the next show playing on that network. Thus, a user would be encouraged to continue viewing and chatting 15 about the particular network's shows. It should be noted that the video region will be displaying the current show on the network, so that the new chat link would take the user to the chat room for the show playing after the end of the show associated with the current chat room.

As indicated above, one challenge presented by chat rooms linked to a 20 particular show is that the show may play at different times in different time zones. Thus, depending on the length of the show, the show may or may not have ended by the time it starts in the next time zone. Thus, it may be desirable to create time zone specific chat rooms to eliminate the possibility of intersecting usage by participants in

different time zones. The various changes that may occur at the end of a show are implemented by the set-top box which, using the show data in the electronic programming guide, can determine when a particular show has ended by comparing the show time to an internal clock. Fortunately, the internal clock is specific to the 5 particular time zone and thus correctly tracks show play times in the current zone.

While the invention has been disclosed in its preferred form, the specific embodiments thereof as disclosed and illustrated herein are not to be considered in a limiting sense as numerous variations are possible. Applicants regard the subject matter of the invention to include all novel and non-obvious combinations and 10 subcombinations of the various elements, features, functions and/or properties disclosed herein. No single feature, function, element or property of the disclosed embodiments is essential. The following claims define certain combinations and subcombinations which are regarded as novel and non-obvious. Other combinations and subcombinations of features, functions, elements and/or properties may be, 15 claimed through amendment of the present claims or presentation of new claims in this or a related application. Such claims are also regarded as included within the subject matter of applicants' invention irrespective of whether they are broader, narrower, or equal in scope to the original claims.

1. In a computer system having a graphical user interface including a display, a method comprising the steps of:

receiving a video signal;

displaying the video signal on the display;

5 receiving text communications from one or more viewers of the video signal, the text communications being related to the video signal; and

displaying the received text communications on the display with the video signal.

2. The method of claim 1, wherein the video signal is displayed in a video

10 region of the display and the text communications are displayed in a chat region of the display.

3. The method of claim 2, wherein the chat region of the display is adjacent the video region of the display.

4. The method of claim 2, wherein the chat region of the display overlies the video region of the display.

15 5. The method of claim 2, wherein an identifying characteristic of the video signal is displayed outside of the video region of the display.

6. The method of claim 5, wherein the identifying characteristic identifies an episode of a television series included in the video signal.

20 7. The method of claim 5, wherein the identifying characteristic identifies a television series corresponding to the video signal.

8. The method of claim 5, wherein the identifying characteristic identifies a television network affiliate providing the video signal.

9. The method of claim 5, wherein the identifying characteristic identifies a television network providing the video signal.

10. The method of claim 5, wherein the identifying characteristic includes a background underlying other displayed data.

5 11. The method of claim 1 which further comprises the steps of:
determining an identifying characteristic of the video signal; and
defining a user interface for display of the text communications, the
user interface being configured to reflect the identifying characteristic of the
video signal.

10 12. The method of claim 11, wherein the user interface includes a
predefined chat region for display of the text communications.

13. The method of claim 12, wherein the user interface includes a
predefined video region for display of the video signal.

15 14. In an entertainment system which includes a graphical user interface
for presentation on a display, a method comprising the steps of:
receiving a broadcast video signal from a broadcast signal source;
displaying the broadcast video signal in a video region of the display;
receiving text communications from a chat source different from the
broadcast signal source, the text communications including text from two or
20 more viewers of the broadcast video signal, and the text communications being
related to the broadcast video signal; and

displaying the received text communications in a chat region of the display, the text communications being displayed on the display with the broadcast video signal.

15. The method of claim 14, wherein the chat region of the display is
5 adjacent the video region of the display.

16. The method of claim 14, wherein the chat region of the display overlies
the video region of the display.

17. The method of claim 14, wherein an identifying characteristic of the
broadcast video signal is displayed outside of the video region of the display.

10 18. The method of claim 14 which further comprises the steps of:

determining an identifying characteristic of the broadcast video signal;

and

selecting a user interface template which defines a video region for
display of the broadcast video signal, a chat region for display of the text
15 communications from the chat source, and a logo region for display of a logo
which reflects the identifying characteristic of the broadcast video signal.

19. The method of claim 18, wherein the identifying characteristic
identifies a broadcast network, network affiliate, television show or episode of the
broadcast video signal.

20. A graphical user interface for presentation on a display device, the
graphical user interface comprising:

a video region of the display for presentation of a video program
having an identifying characteristic; and

a chat region of the display for real-time presentation of text communications between viewers of the video program during viewing of the video program, wherein the appearance of the graphical user interface outside the video region is determined at least in part by an identifying characteristic of the video program.

21. The graphical user interface of claim 20, wherein the chat region of the display is adjacent the video region of the display.

22. The graphical user interface of claim 20, wherein the chat region of the display overlies the video region of the display.

23. The graphical user interface of claim 20, wherein the identifying characteristic is a television series episode.

24. The graphical user interface of claim 20, wherein the identifying characteristic is a television series.

25. The graphical user interface of claim 20, wherein the identifying characteristic is a television network affiliate which broadcasts the video program.

26. The graphical user interface of claim 20, wherein the identifying characteristic is a television network which broadcasts the video program.

27. The graphical user interface of claim 20, wherein the identifying characteristic is used to determine a background over which other information is displayed.

28. A method for presentation of information on a display screen of a computer system, the method comprising the steps of:

receiving a video program from a program source;

presenting the video program in a video region of the display screen;
presenting a chat option for selection by a program viewer; and
upon selection of the chat option, providing for text communications
between the program viewer and other program viewers over a
communications network, and presenting the text communications in a chat
region of the display screen.

5

10

29. The method of claim 28, wherein the step of providing for text
communications between the program viewer and other program viewers includes
defining a chat room in a chat server, the chat room having a chat room identity based
on a unique program identifier of the video program.

30. The method of claim 28, wherein the step of providing for text
communications between the program viewer and other program viewers includes:

15

communicating selection of the chat option to a web server for
determination of a chat room identity;
receiving the chat room identity from the web server; and
communicating the chat room identity to a chat server for use in
defining a chat room in the chat server, the chat room serving as a
communication link between program viewers.

20

31. The method of claim 30, wherein the step of communicating selection
of the chat option involves communicating a unique program identifier of the video
program to the web server.

32. The method of claim 31, wherein the chat room identity is a
predetermined variant of the unique program identifier.

33. The method of claim 28 which further comprises:
determining an identifying characteristic of the video program; and
defining a background for a portion of a user interface which reflects
the identifying characteristic of the video program.

5 34. The method of claim 33, wherein the identifying characteristic
identifies an episode of a television series.

35. The method of claim 33, wherein the identifying characteristic
identifies a television series.

10 36. The method of claim 33, wherein the identifying characteristic
identifies a television network affiliate providing the video program.

37. The method of claim 33, wherein the identifying characteristic
identifies a television network providing the video signal.

38. The method of claim 28, further comprising the following steps after
conclusion of the video program:

15 receiving a second video program from the program source;
presenting the second video program on the video region;
presenting a second chat option for selection by the program viewer;
and
upon selection of the second chat option, providing for text
20 communications between the program viewer and other program viewers of
the second video program over a communications network, and presenting the
text communications in a chat region of the display screen.

39. The method of claim 28, wherein the chat option is presented only during receipt of the video program from the program source.

40. The method of claim 28 which further comprises the step of interrupting text communications between program viewers upon conclusion of the
5 video program.

41. An entertainment system for use in supplementing video programming with interactive text communications for concurrent presentation on a video display, the entertainment system comprising:

a control unit configured to receive video programming for presentation on the display, and to present a chat option on the display for selection by a program viewer; and

a server arrangement configured to communicate with the control unit upon selection of the chat option for identification of the video programming, the server arrangement further being configured to determine a chat room identity based on the identified video programming and to communicate text communications within the identified chat room to the control unit, for presentation on the video display concurrently with the video programming.

42. The entertainment system of claim 41, wherein the server arrangement includes:
20 a computer system having a database for storing video-program-based chat room identities, and a web server in communication with the control unit to receive a video program identity from the control unit and to determine a video-program-based chat room identity for transmission to the control unit; and

a chat server configured to establish the identified chat room and to communicate text communications within the identified chat room to the control unit for presentation on the video display.

43. The entertainment system of claim 42, wherein the web server is further configured to determine an identifying characteristic of the video programming, and to define a user interface based, at least in part, on the identifying characteristic of the video program.

44. The entertainment system of claim 43, wherein the identifying characteristic identifies an episode of a television series.

45. The entertainment system of claim 43, wherein the identifying characteristic identifies a television series.

46. The entertainment system of claim 43, wherein the identifying characteristic identifies a television network affiliate providing the video programming.

47. The entertainment system of claim 43, wherein the identifying characteristic identifies a television network providing the video programming.

48. The entertainment system of claim 41, wherein the video programming has a beginning and an end, the control unit being configured to direct program viewers to a subsequent chat room upon reaching the end of the video programming.

49. The entertainment system of claim 48, wherein the subsequent chat room has a chat room identity based on subsequent video programming.

50. In an entertainment system including a video display configured to present video programming from a video program source and to present text communications from a chat room of a chat server, a control unit comprising:

5 a video receiver configured to receive a video program for presentation on the video display, and configured to receive a unique program identifier of the video program for selection of a chat room based on the unique program identifier; and

10 a browser device in communication with the video receiver to identify the selected chat room, the browser device being configured to communicate with the selected chat room and to present text communications occurring within the selected chat room on the video display concurrently with the video program.

15 51. The entertainment system of claim 50, wherein the browser device is further in communication with a web server to receive a chat background which reflects an identifying characteristic of the video program.

52. The entertainment system of claim 51, wherein the identifying characteristic identifies an episode of a television series.

53. The entertainment system of claim 51, wherein the identifying characteristic identifies a television series.

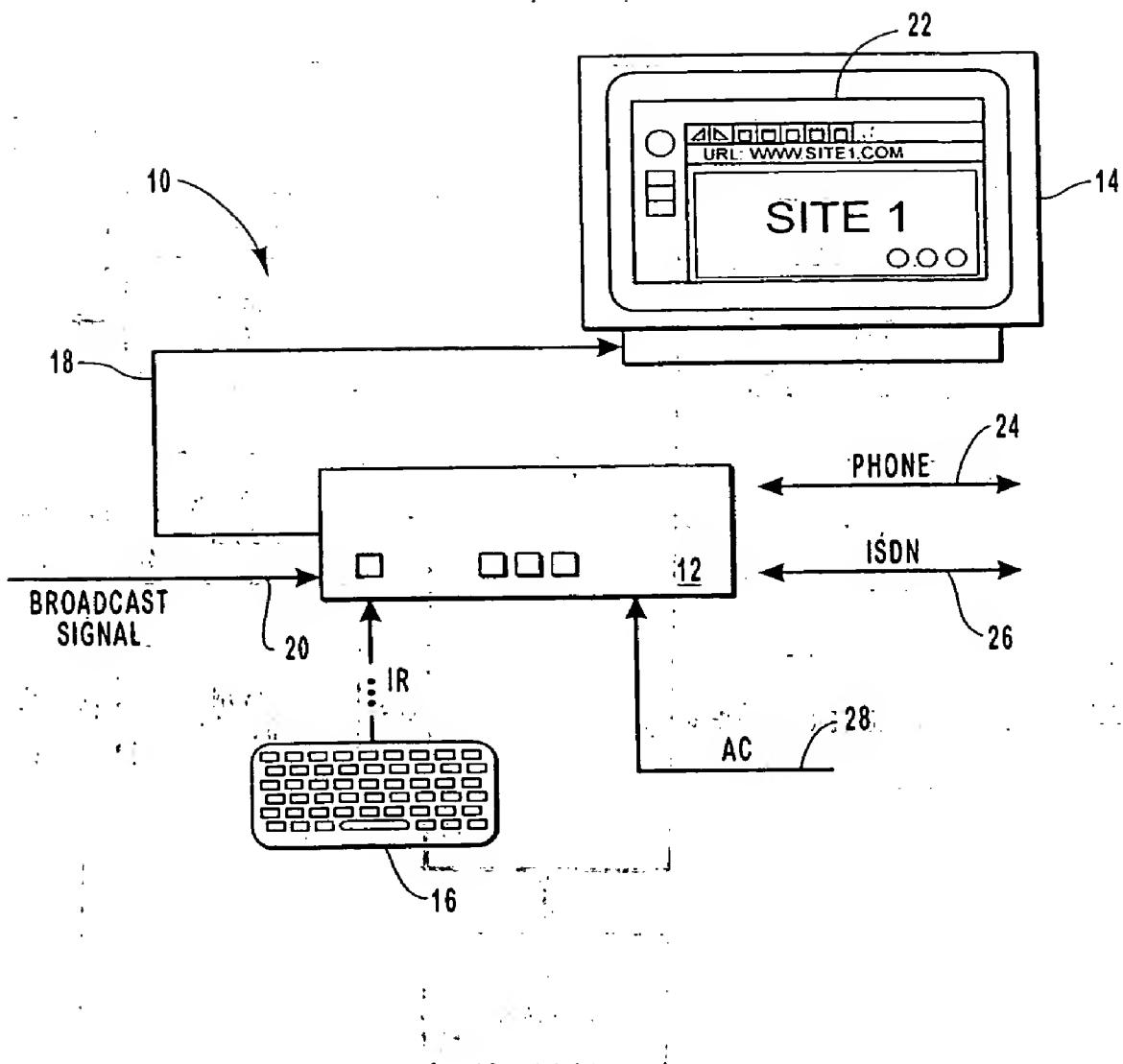
20 54. The entertainment system of claim 51, wherein the identifying characteristic identifies a television network affiliate providing the video programming.

55. The control unit of claim 51, wherein the identifying characteristic identifies a television network providing the video program.

56. The control unit of claim 50, wherein the video program has a beginning and an end, the browser device being configured to direct program viewers to a subsequent chat room upon reaching the end of the video program.

57. The control unit of claim 56, wherein the subsequent chat room has a chat room identity based on a subsequent video program identity.

1 / 9



2 / 9

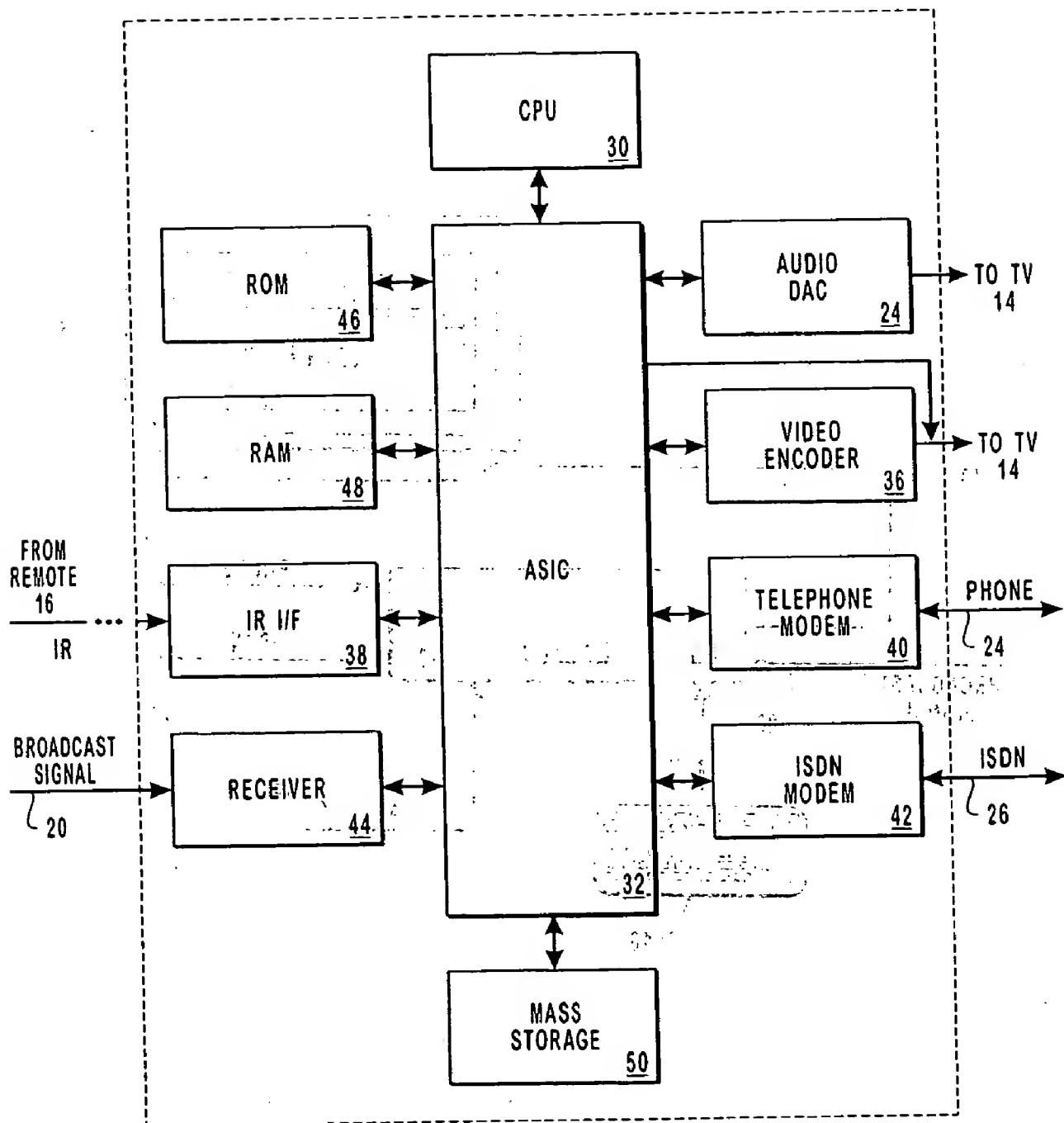


FIG. 2

3 / 9

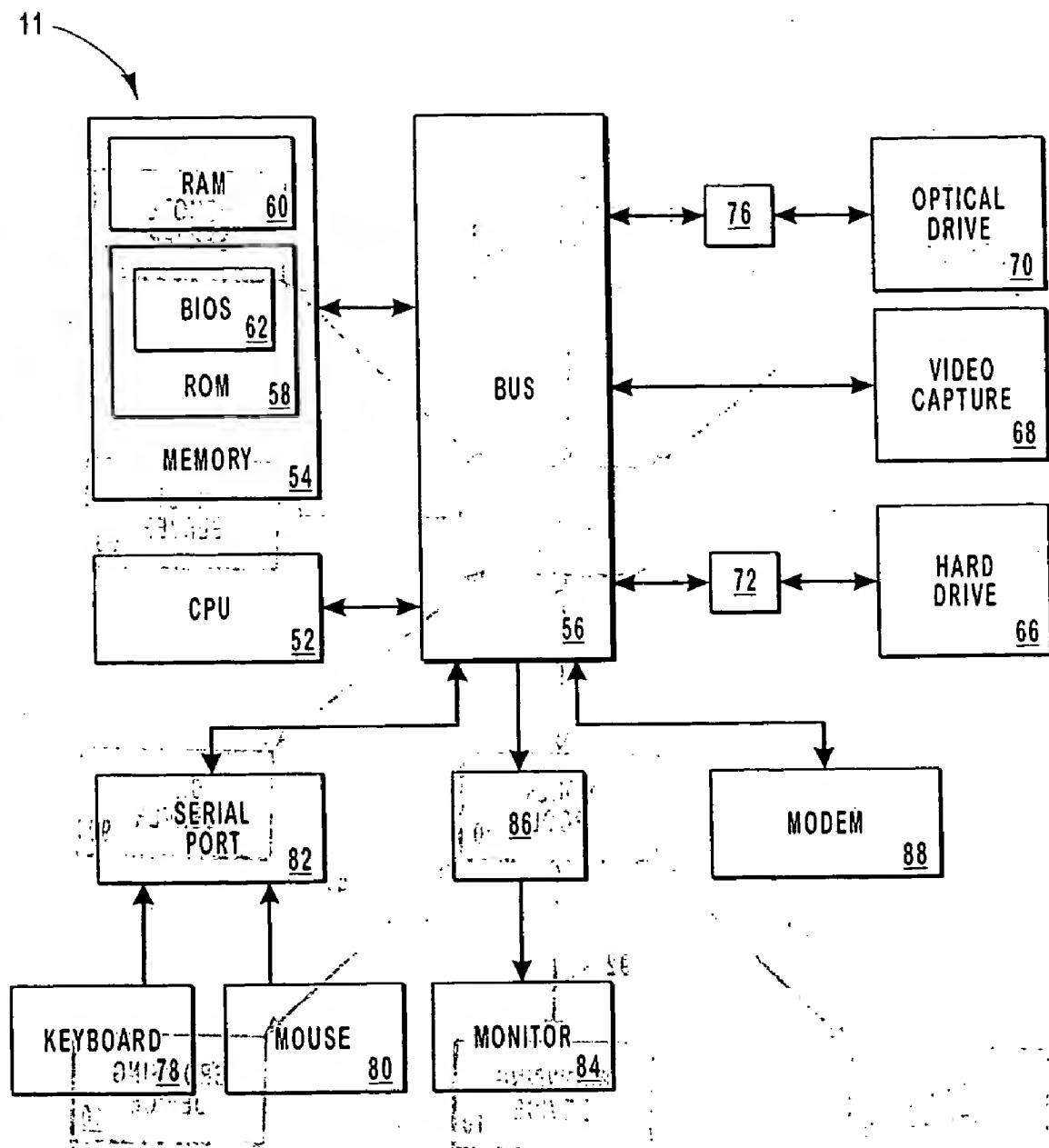


FIG. 3

4 / 9

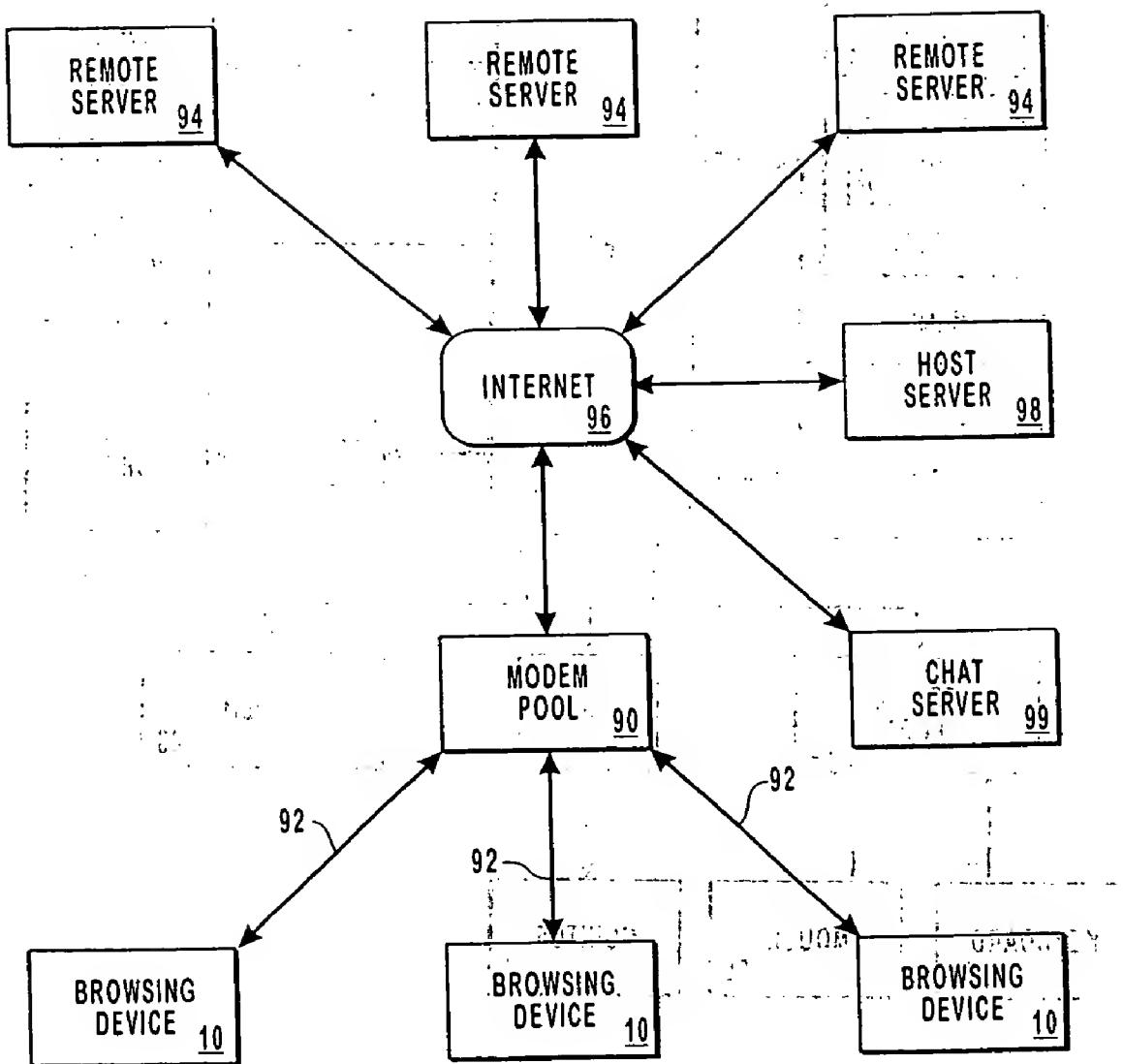


FIG. 4

5 / 9

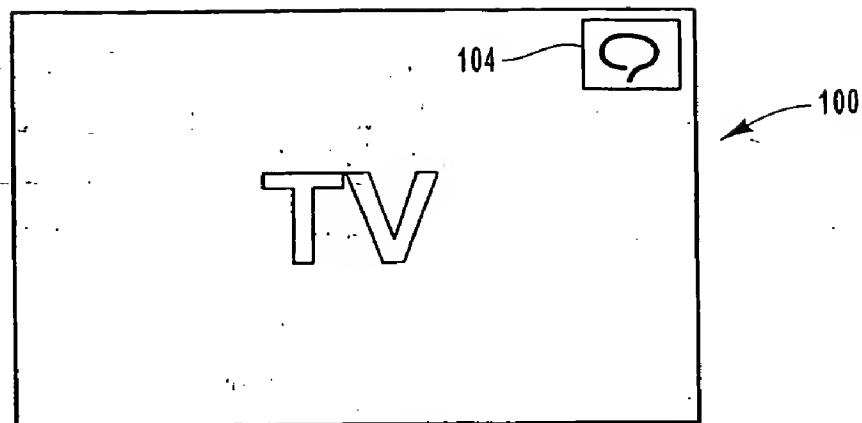


FIG. 5

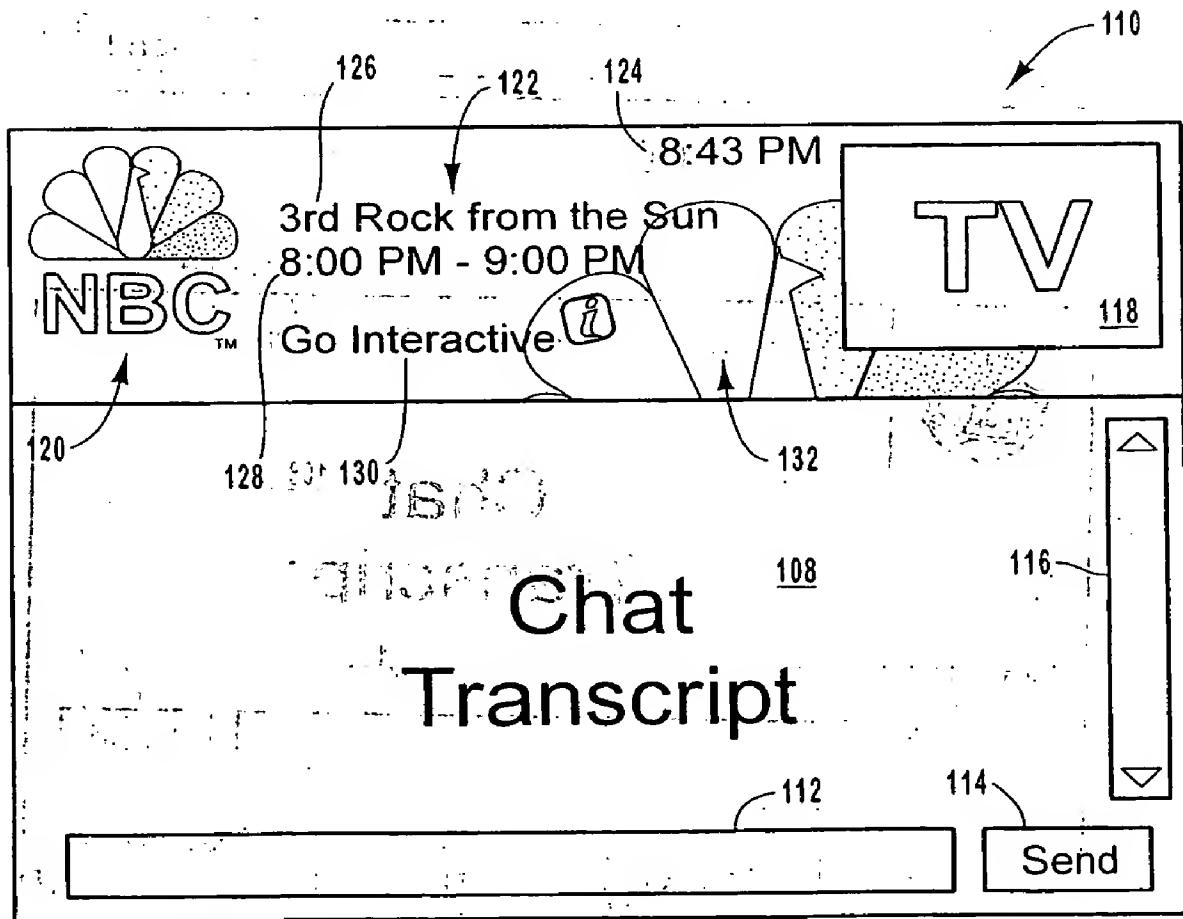


FIG. 6

6 / 9

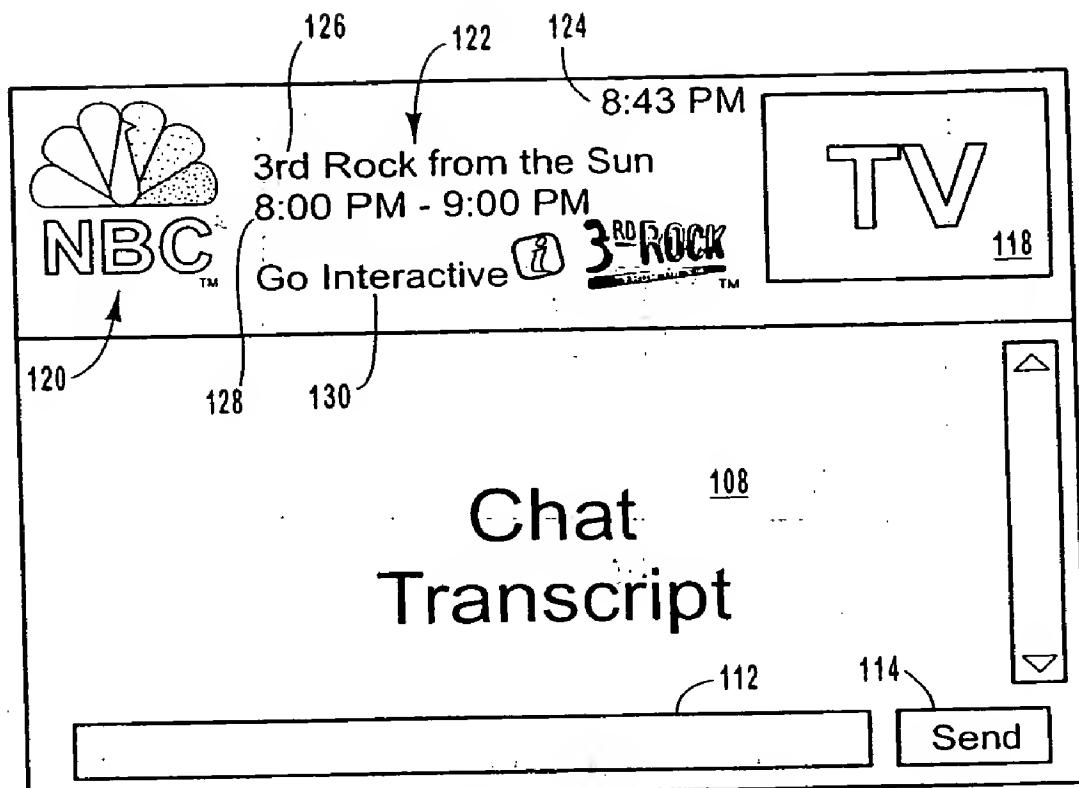


FIG. 7

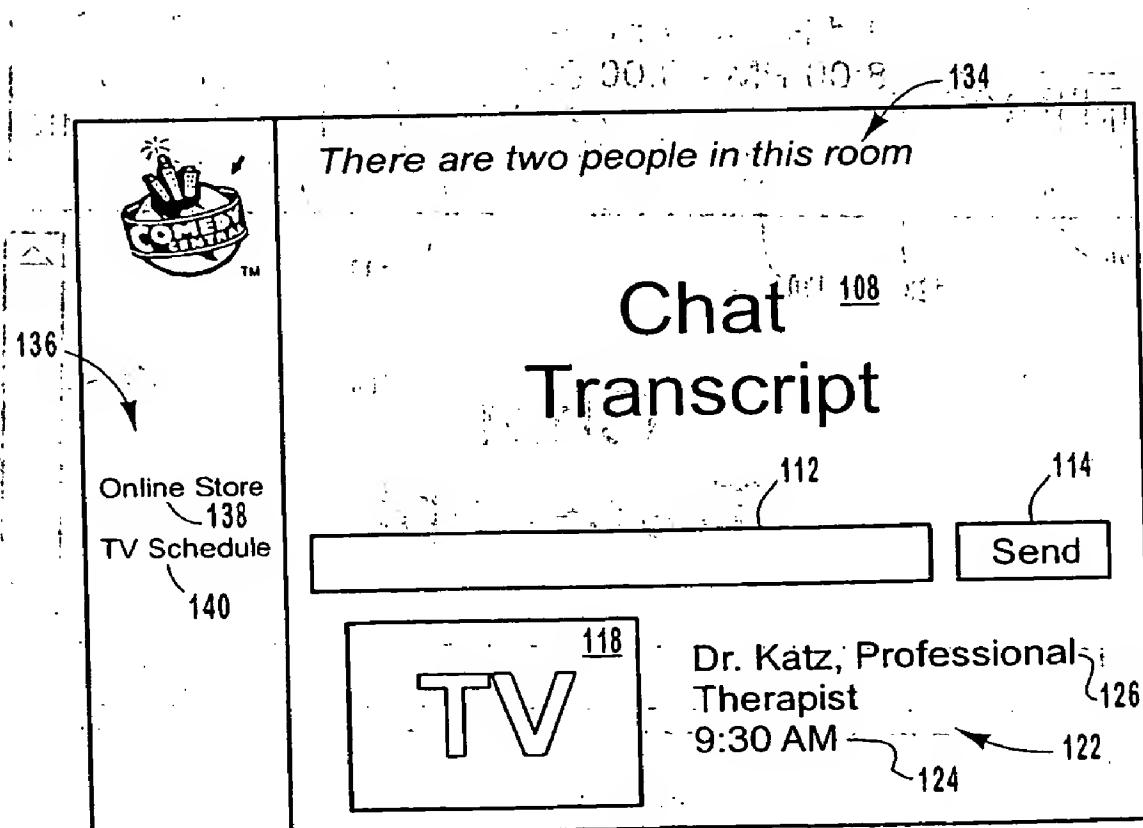


FIG. 8

7 | 9

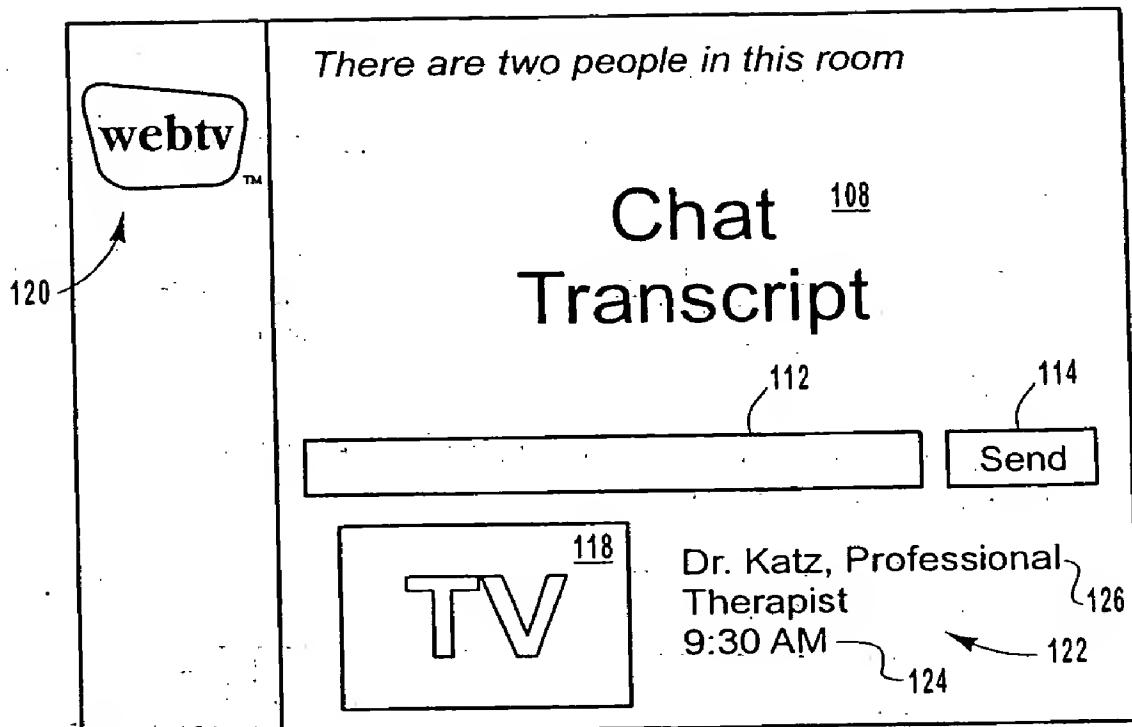


FIG. 9

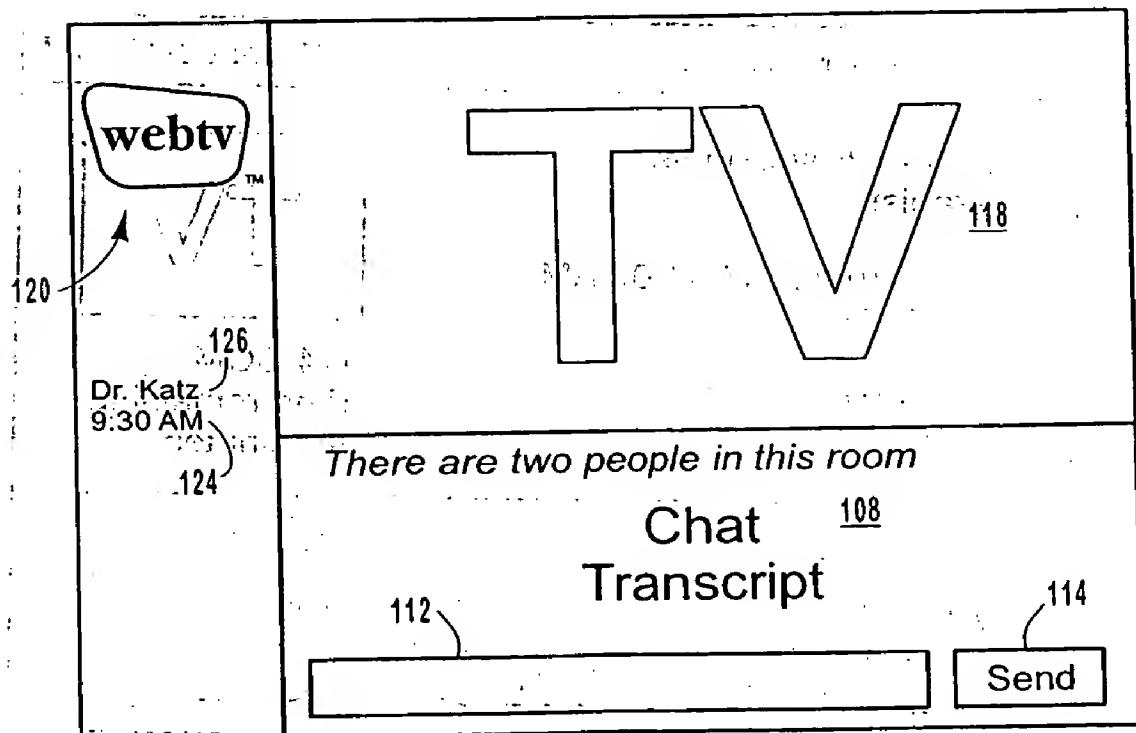


FIG. 10

8 / 9

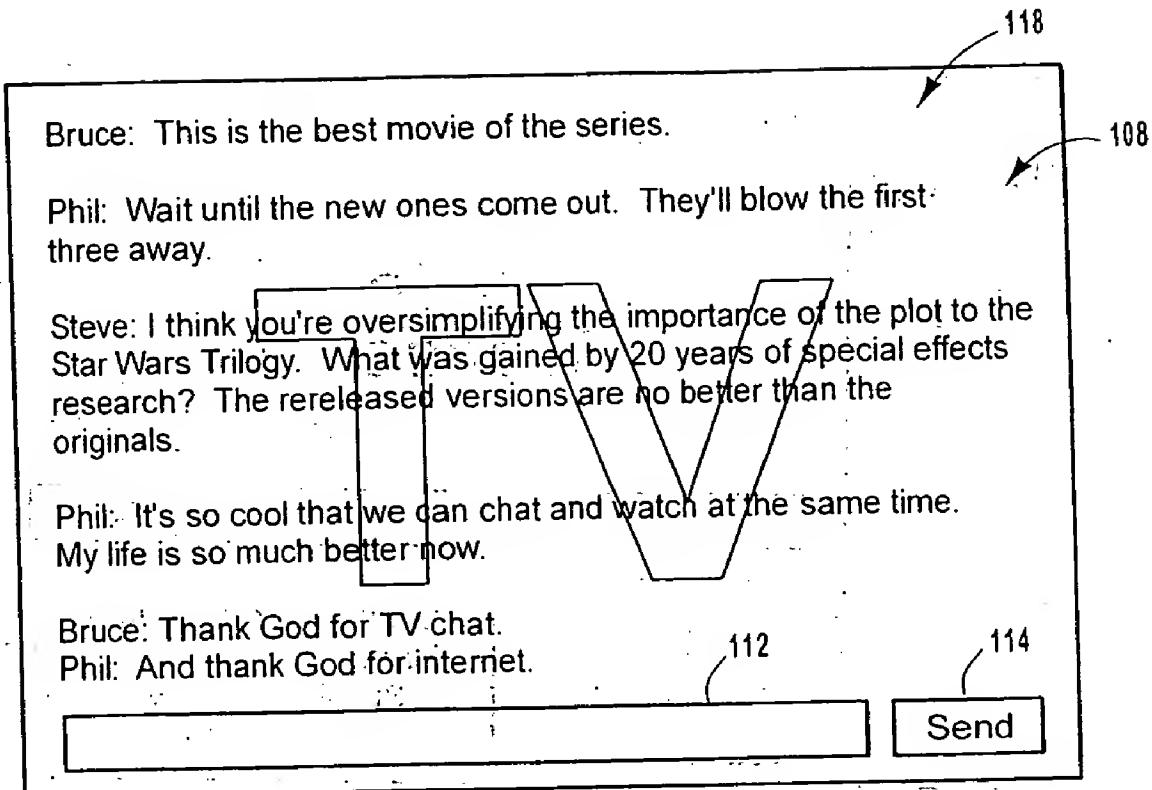


FIG. 11

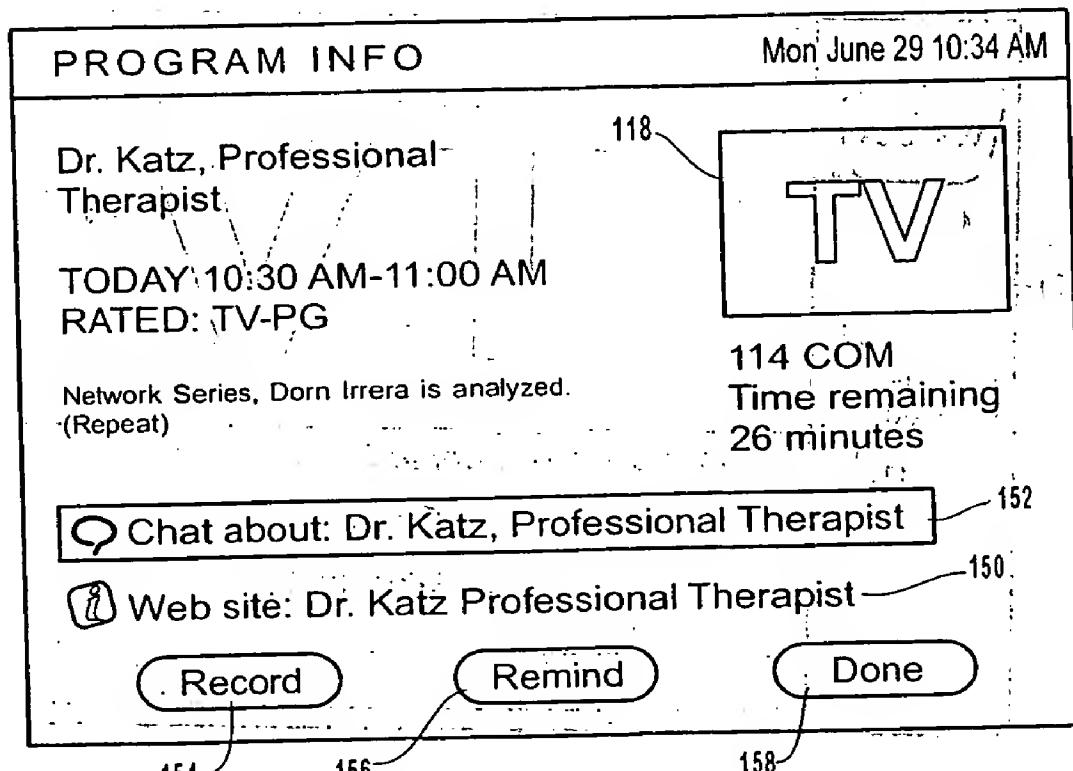


FIG. 12

9 / 9

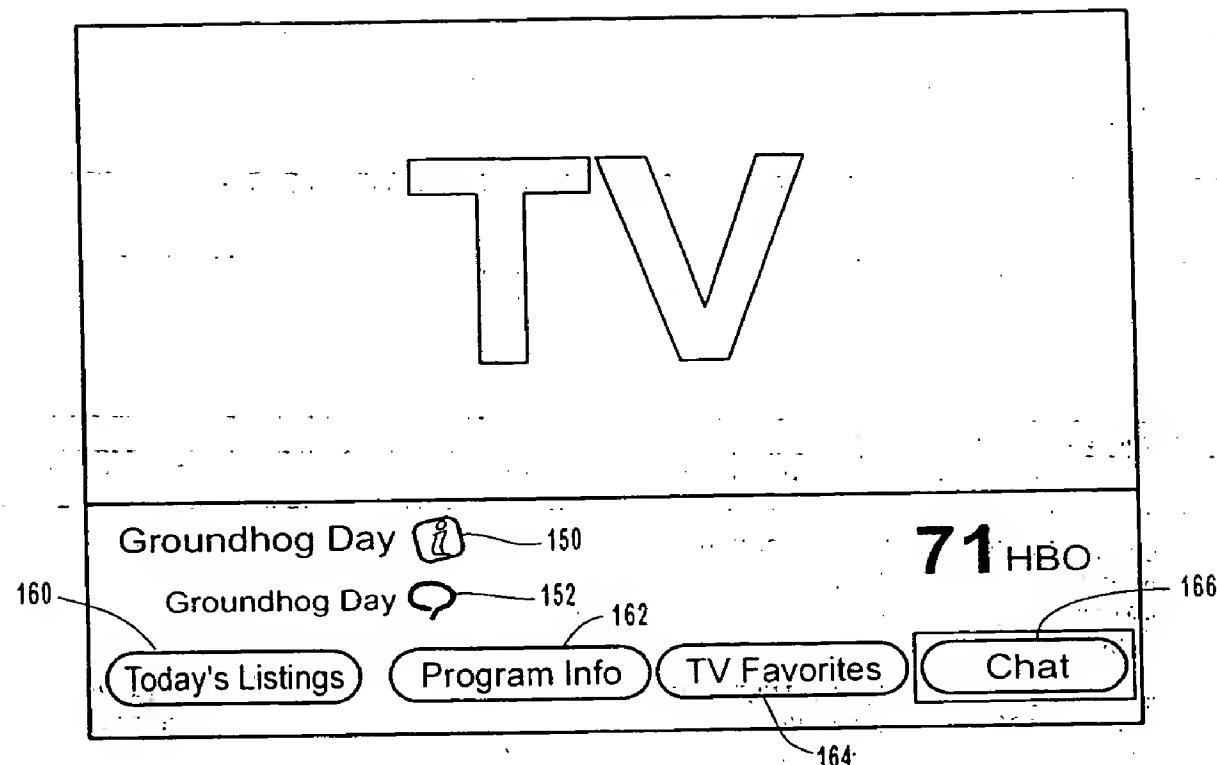


FIG. 13

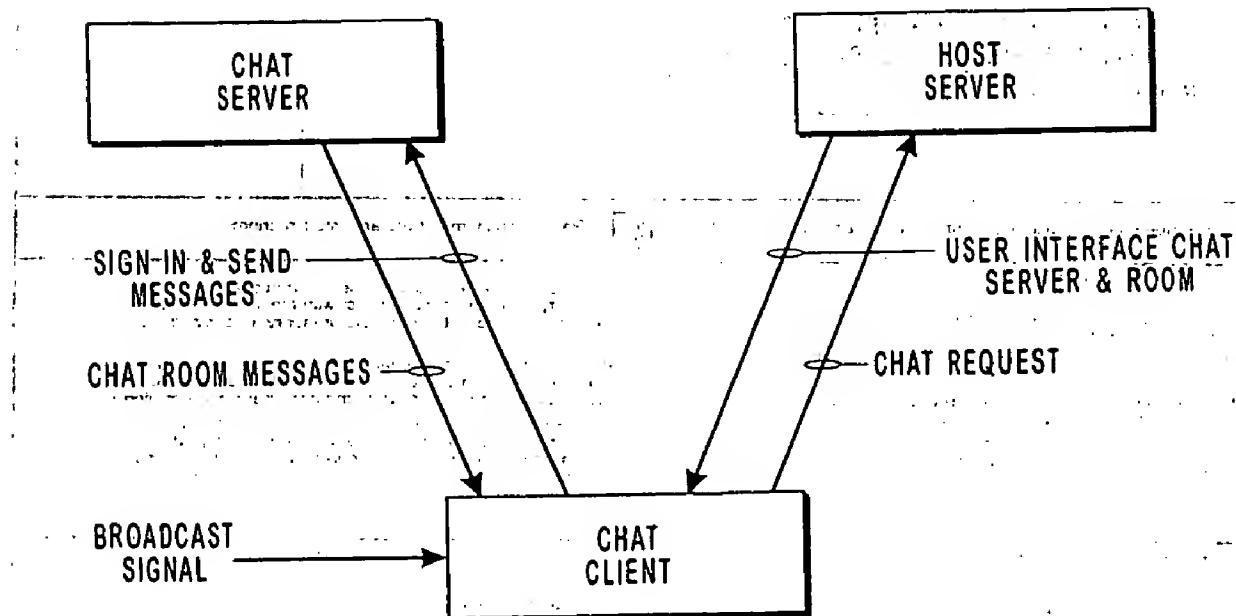


FIG. 14

INTERNATIONAL SEARCH REPORT

Int'l. Appl. No.
PCT/US 00/10336

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N5/445

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 834 798 A (COMPAQ COMPUTER CORP) 8 April 1998 (1998-04-08) column 7, line 16 -column 8, line 37; figures 2,3	1-57
X	EP 0 852 361 A (TEXAS INSTRUMENTS INC) 8 July 1998 (1998-07-08) column 5, line 49 - line 52; figures 1-3	1,14,20, 28,41,50
P, X	WO 99 35831 A (SCHULTHEISS CHRISTOPHER J; CUTLER TODD D (US); SUPERGUIDE CORP (US) 15 July 1999 (1999-07-15) the whole document	1-57
A	WO 99 04561 A (SCHOAFF P CHRISTOPHER ALEXANDER RON (US); GUIDE INC E (US); HANCO) 28 January 1999 (1999-01-28)	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date, or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

21 August 2000

Date of mailing of the international search report

25/08/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo rd.
Fax: (+31-70) 340-3018

Authorized officer

Yvonnet, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/10336

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 0834798 A	08-04-1998	JP	10143349 A	29-05-1998
EP 0852361 A	08-07-1998	JP SG	10215420 A 67467 A	11-08-1998 21-09-1999
WO 9935831 A	15-07-1999	AU	2109999 A	26-07-1999
WO 9904561 A	28-01-1999	AU	8504898 A	10-02-1999